Phytobiomes 2015 Offered Holistic Perspectives and an Exciting Road to the Future

The recent Phytobiomes 2015 workshop in Washington, DC, brought together renowned experts in diverse fields to work toward “Designing a New Paradigm for Crop Improvement.” The workshop involved a highly engaging and holistic look at critical needs for developing a systems-level understanding of phytobiomes. Nearly 230 participants joined the workshop June 30–July 2, 2015. Participants heard 36 presentations that explored how far we have come in understanding phytobiomes, their breadth and relevance, the lessons we’ve learned from other system biology efforts, and the many applications of phytobiomes knowledge. More than 50 posters were on display throughout the meeting, adding to opportunities for discussion. Ten early career scientists from a pool of 40 applicants were selected for travel awards and presented during the meeting. Members of the APS Public Policy Board (PPB) have been planning this workshop since the Phytobiomes Initiative launched in December 2013 (www.apsnet.org/publications/phytopathologynews/Issues/2013_11.pdf).

Presentations that described the state of the field, provided thoughts for future directions, and invoked active engagement throughout the meeting were key to the success and a testament to the collaborative and effective work of organizers Jan Leach, Colorado State University and chair of PPB; Gwyn Beattie, Iowa State University; and Kellye Eversole, Eversole Associates.

“This meeting was really critical for capturing the successes, gaps, and future needs of research in phytobiomes,” noted Leach. “One purpose of the workshop was to build understanding of the phytobiome as a system that includes interacting biota (plants; animals such as insects, nematodes, and amoeba; and microbes, such as fungi, bacteria, and viruses) and the abiotic environment. We wanted to engage diverse scientists and representatives of federal funding agencies, agricultural industries, and scientific societies in developing a roadmap to advance our knowledge of phytobiomes and apply this knowledge to increase safe and sustainable crop production. We couldn’t be more pleased with the resulting scientific exchange and all of the advancements that were highlighted during the meeting. There is an incredible

The Phytobiomes Research and Translation Roadmap draft is posted online to enable the entire community to continue to provide input. Visit www.phytobiomes.org/roadmapinput.

Plenary Speaker Jo Handelsman, Office of Science and Technology Policy, covered the untapped power of the plant microbiome and challenged the audience to help identify research, technology, and training gaps related to the area.

Stimulating presentations generated a wealth of dialogue and engaging questions to help move the Phytobiomes Initiative forward.

Participants shared their input on the draft document to help frame the Phytobiomes Research and Translation Roadmap. Share your input at www.phytobiomes.org/roadmapinput.

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Editor’s Corner

An Oldie but Goodie from August 2000

Doug Jardine, Kansas State University
PhytoNewsEditor@scisoc.org

When I took on the challenge of writing a monthly column for the newsletter, it was my intent to take an occasional month off and reprint a column from one of the former editors. As my time as editor-in-chief grows short, I realized I have only done that two times. Perusing back issues, I came across this column by Bob Nyvall. In rereading the column, it occurred to me that we all have similar types of possessions: things that are no longer of use to us, yet we just can’t seem to part with them. Call it nostalgia if you will. So without further ado, I present his take on garage sales.

Garage Sales by Robert Nyvall

About a month before this was written, my wife decided to have a garage sale. For those of you who are unfamiliar with this activity, it is often called by other names, such as yard sale, basement sale, secondhand sale, treasures sale, or flea market. Regardless of the appellation, it’s a process of recycling “things” you no longer (take your pick) want or desire, have bought at other garage sales, are left over from your parents’ houses, have always been “there”; sitting with no apparent purpose or reason on a reclusive shelf or in a darkened corner.

My wife came up from our basement carrying three aged plant pathology texts, Stakman and Harrar’s Plant Pathology, Walker’s Plant Pathology, and Chupp’s Manual of Vegetable Garden Diseases, a 30-year-old book on statistics (a subject I loved to hate), and a large paper shopping bag whose contents clanged and rattled. “Let’s sell these at the garage sale,” she suggested. “You haven’t looked at any of these for at least 25 years.”

I nodded as I took the three plant pathology volumes and momentarily gazed at the faded and stained covers. It was like accidentally meeting old friends that I hadn’t seen for a long time. Their stains and blemishes conjured up images as if starting a conversation by saying, “Remember when?” A coffee ring was permanently dyed on the Stakman, where I carelessly placed a cup on its cover. The Chupp was bought secondhand at a bookstore and was “dated” even when I was in graduate school. However, the basic information was useful 30 years ago and remains so today. It still had that old, stale, damp basement smell.

I opened the Stakman and imagined I could still smell tobacco smoke and that esoteric pungency that most graduate student offices had in those days, a combination of accumulated paper, oranges, sandwiches, sweat, rotted vegetation, soil, tobacco smoke, toasted electrical stench from a mechanical adding machine, and perhaps a malodorous fungal or bacterial culture or two. I pictured the old oak desks in Stakman Hall with their accumulation of scars inflicted on them by generations of graduate students. I could smell coffee in the old coffee room and hear the shared graduate student telephone ring until someone reluctantly answered it and bellowed down the hall for “whoever.” There were no cell phones back then. My wife asked, “Why the big sigh?” I ignored her question and asked, “Anything else I should be looking at?” She silently thrust a pair of amputated tools (no chuck for the drill), and a sofa with an atrocious pattern that somewhat resembled a cross between military camouflage and my grandchildren’s bibs after they’ve eaten peas. All of the treasures my wife and I now held in our hands were rare jewels compared to the

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APS Journal Impact Factors Leading the Pack

Niklaus Grünwald, Publications Board Chair, grunwaln@science.oregonstate.edu

APS Journal Impact Factors (IFs) for the first time ever all were above three. Furthermore, trends are indicating that our journals will remain at these high levels. Our journals are now solidly positioned at the top of our field based on both Journal IF and Eigenfactor Scores. IFs, whether you love or hate them, still make headlines. IF is a metric reflecting the average number of citations per paper over the two preceding years over all papers published for a given journal. Thus, an IF = 3 in 2014 means that a paper in our journals has been cited on average three times over the preceding two years, namely 2012 and 2013. IF is often thought of as an indicator of the relative importance of a journal within its field. However, this metric has received a lot of criticism as of late and should be taken with a grain of salt (see https://en.wikipedia.org/wiki/Impact_factor). The Eigenfactor Score is another metric measuring the total importance of a scientific journal and is thought to be more robust than IF (https://en.wikipedia.org/wiki/Eigenfactor). Other comparative core metrics are included in the table below.

But who made this happen? I would like to thank two groups in particular. First, our dedicated editorial boards (editors-in-chief [EICs] and senior and associate editors) who are the gatekeepers for publishing the highest quality papers in the field of plant health. Our EICs have actively implemented a range of strategies to improve author experience, speed of publication following submission and acceptance, and introduced new manuscript topics and formats, all of which are expected to further contribute to our journals’ standing and pay dividends in the current and future publishing environments. Second, just as important are our members, who continue to submit high impact papers to our journals and serve as ad hoc reviewers. We should all celebrate our accomplishments.

2014 rankings of plant health journals within the plant sciences

<table>
<thead>
<tr>
<th>RANK</th>
<th>FULL JOURNAL TITLE</th>
<th>TOTAL CITES</th>
<th>JOURNAL IMPACT FACTOR</th>
<th>EIGENFACTOR SCORE</th>
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Source: 2015 Thomson Reuters
amount of potential for this initiative and after months of planning we were excited to see it take shape.” Attendees shared in the same enthusiasm, with comments including, “Awesome conference, my students and post-docs came back with great feedback and [1] heard nothing but enthusiastic praise for the conference… they were really impressed with the breadth and depth of the work presented and the potential for the initiative to harness work in this area towards important goals,” and “Great workshop. I found it very interesting, and I am sure that most of the participants came away with a new perspective on the field.”

This emerging area is being noticed by science news outlets as well as the scientific community. Prior to the workshop, the organizers were contacted by a Nature news journalist and an article was published highlighting the plans for the event (www.nature.com/news/plant-denumens-get-the-big-science-treatment-1.17920); this is helping provide visibility to the effort.

Moving forward, the key challenges for the Phytobiomes Initiative are to develop a path for generating a comprehensive, systems-level understanding of all of the components in plant biomes and to translate the resulting knowledge into broad improvements in the productivity and sustainability of agroecosystems and forests and in the safety, quality, nutrition, and security of global food supplies. An initial draft of a Phytobiomes Research and Translation Roadmap was shared with all attendees prior to the event to help identify the critical knowledge, technology, infrastructure, and training needs to meet these challenges. This draft is posted online (www.phytobiomes.org/roadmapinput) to enable attendees and the entire community to continue to provide comments and input.

The meeting program, abstracts, and attendee list are available at www.phytobiomes.org. If you are interested in becoming more involved in this effort, make sure to stop by the PPB booth during the upcoming APS Annual Meeting (at which you can also attend a special phytobiomes session) or add your name to the interest list at www.phytobiomes.org/contact. The Phytobiomes 2015 workshop was made possible in part by support from USDA NIFA, NSF, APS, DOE, Bayer CropScience, the Noble Foundation, and the U.S. Forest Service. ■

**Featured APS PRESS Titles**

Thanks to the efforts of the APS PRESS Editorial Board and countless APS volunteer authors and reviewers, the society published nine new titles before the end of last fiscal year. Learn more about these ready-to-shop titles and other brand-new APS PRESS titles at shopapspress.org!

**Compendium of Grape Diseases, Disorders, and Pests, Second Edition**
Edited by Wayne F. Wilcox, W. Douglas Gubler, and Jerry Uyemoto

The Compendium of Grape Diseases, Disorders, and Pests, Second Edition is a highly anticipated and unique book that fills an important need for researchers and consultants worldwide, including those who research grapes and those who work with the wine grape, table grape, and juice grape industries. This book packs 375 images and management recommendations for nearly 70 diseases, insects, and abiotic disorders of grape into more than 230 pages. It represents a tremendous amount of new research from nearly 80 authors from 12 countries spanning five continents.

Two new sections discuss fungicides and cultural practices in the context of minimizing disease resistance, as well as cost-saving techniques and practices to minimize pesticide use and ensure chemicals hit their target: the plant. The compendium has a list price of $119; APS members pay just $107.10 with their 10% membership discount! Save even more by purchasing this book in packs of 10 or 25 for colleagues in county extension, VIP clients, or gifts to colleagues and students!

**Compendium of Soybean Diseases and Pests, Fifth Edition**

Compendium of Soybean Diseases and Pests is the authoritative guide on diagnostic and pest management for researchers and professionals in agribusiness, consulting, extension, and regulatory. This practical new reference has a much broader scope than its four previous editions, which sold more than 30,000 copies worldwide. It is also one of the largest, most comprehensive compendia to date. It includes nearly 240 images for diagnosis, expert recommendations for a range of pathogens and diseases, as well as insect pests and abiotic disorders, including diseases and pests caused by biotic factors, such as prokaryotes, fungi and oomycetes, nematodes, viruses, and seed and postharvest pathology; major insect pests, such as soybean aphids, bean leaf beetles, caterpillars, kudzu bugs, and more; disorders caused by abiotic factors, including weather-related stresses, mineral deficiencies, toxicities, and injuries from chemicals and pollutants; and strategies for disease management, including biological enhancements, cultural practices, host-plant resistance, and pesticide use.

This compendium is expected to ship in September 2015 and has a list price of $119. APS members pay just $107.10 with their 10% membership discount. This title is also available for discounted bulk purchases in packs of 10 or 25.

Looking to publish your book with the leading plant pathology publisher, as well as support your society and your science? Contact APS PRESS acquisitions editors Chris Mundt (mundtc@science.oregonstate.edu) or Dennis Gross (d-gross@tamu.edu) to share your ideas for a new title. ■
Plant Diseases and Their Management in Organic Agriculture

Ariena H. C. van Bruggen, University of Florida, ahcvanbruggen@ufl.edu

Several textbooks have been written on the principles and practice of organic farming. Although a lot of research papers were published about plant diseases and their management in organic production systems, no textbook was available on this topic until the appearance of Plant Diseases and Their Management in Organic Agriculture this summer. This comprehensive textbook is the result of more than 10 years of research and teaching organic agriculture and disease management by the editors and an international team of scientists and practitioners from Europe, North America, Middle and Latin America, and Africa.

Plant diseases on organic crops cannot be managed curatively and an integrated systems approach to disease management is indispensable. In this book, the agricultural system effects on plant diseases are emphasized. The book starts with a general introduction (part one) into the history and principles of organic agriculture and regulation and certification worldwide, and presents the reasons for writing the book. In part two, general principles of organic plant production are described, as well as their effects on microbial communities, pathogen fitness, and plant resistance. This is followed by current organic practices for the production of annual and perennial crops in the field and vegetable crops in the greenhouse. An overview of common plant diseases in organic agriculture is given in part three, including detailed descriptions of airborne diseases, soilborne diseases caused by fungi and bacteria, diseases caused by nematodes, and vector-borne diseases. In part four, plant disease management strategies are presented, with chapters on crop rotation, water management, biodiversity enhancement, breeding for disease resistance, seed health management, and food chain management. The book ends with case studies on organic disease management of specific crops (part five), specifically potatoes, small grain cereals, rice, temperate legumes, vegetables, apples, grapes, bananas, and coffee.

Plant Diseases and Their Management in Organic Agriculture is an important resource for any researcher, student, or practitioner wanting to learn about plant diseases and their management in organic agriculture. It is not only of value for people interested in organic farming but will also be an inspiration for innovative studies and applications of ecological principles in other agricultural systems. It is a much needed addition to the textbooks on ecological agriculture and agroecology used by students, researchers, and extension staff as well as for interested farmers, consultants, and other practitioners involved in organic agriculture. The book offers valuable, detailed information that helps users understand the effects of farming systems on plant diseases, nutrients, soil fertility management, habitat management, and biodiversity. Many color photographs illustrate organic crop production practices and potential plant disease symptoms, aiding the readers in visually recognizing a wide range of diseases that may affect their crops.

A detailed description of this book can be found at www.apsnet.org/apsstore/shopapspress/Pages/44761.aspx.
Increasing Abstract Quality at APS Meetings through Peer Review

Jay W. Pscheidt, Pacific Division Forum Representative, pscheidj@science.oregonstate.edu, and Ronald D. French-Monar, Caribbean Division Forum Representative, rdfrench@ag.tamu.edu

We need to start with the statement that abstract quality remains good throughout APS at both annual and divisional meetings. When discussing this topic, most people are able to remember reading abstracts at either extreme, those of high or low quality. These abstracts seem to be the exceptions rather than the norm. APS is the premier society dedicated to high-quality, innovative plant pathology research. Our goal is to discuss ways to encourage higher abstract quality at APS meetings.

We discovered that some students who prepare abstracts for divisional meetings did not encounter any guidance on abstract content beyond what they might get from their advisors. And in some cases, not all coauthors have edited the abstract. Sure, there is plenty of information on submitting an abstract with parameters such as word limit, font size, or when to capitalize words. But shouldn’t they also know that all abstracts should have a justification, objectives, methods, results, and significance of the research to the science of phytopathology? Students will encounter “Criteria for Abstract Acceptance” when developing abstracts in the rush before the deadline for the annual meeting.

New for 2015! Criteria for Abstract Acceptance Published for Division Meetings

But wait, there is more that you might not find when preparing an abstract for the annual meeting. Some plant pathologists may remember the “good ol’ days” when we had to prepare camera-ready abstracts that had to fit inside a blue-lined box on a sheet of paper. That same sheet of paper had to be signed by two reviewers before being sent in for publication to the annual meeting. The review requirement was dropped for the 1991 APS Annual Meeting. When discussing this topic, many professors suggest we go back to something similar when abstracts are more formally reviewed.

Students have no problem with an additional requirement to have abstracts reviewed, especially if it means better abstract quality. In fact, they are quick to suggest possible electronic methods to implement such a system. (For example, check boxes showing an abstract writer’s willingness to help review other abstracts.) Headquarters staff is equally quick to resist any increase in their workload to implement such a system. It may be possible to develop a system in the future, but we need to start with the suggestion to have abstracts reviewed.

New for 2015! Abstracts Must Now Be Peer Reviewed for Division Meetings

The following is additional wording for abstract acceptance at APS divisional meetings: “Abstracts should be reviewed by all authors and peer reviewed by two additional people for scientific merit as well as grammatical, typographical, or factual errors.” At this point there is no formal system for policing this policy. It will be up to the abstract authors to implement this on their own.

First Disease Reports

The issue of “first disease reports” (FDRs) takes on special consideration. It is no trivial matter to report on a new disease, on a new crop, in a new geographic area. The report can have major implications for transporting commodities between regions or countries. The publishing of a non-reviewed abstract that is electronically available to the world can have serious economic consequences. The possibility also exists that if not fully vetted this first report of a pathogen may well indeed be a new species or not the actual species being reported. We feel abstracts of FDRs should have the same scrutiny as any Disease Note found in Plant Disease.
irrelevant bric-a-brac, unwanted toasters, and plastic strainers filling the room, at least to me.

“Look. Be realistic. You haven’t looked at these things since you were a graduate student. You had no idea they even existed!” she pleaded. She was completely right. I had moved these objects from my graduate student office, to my post-doctorate office, to my first “real job” office, then to a succession of houses. I had placed the boxes in corners where no human ever went and, for me, these objects had ceased to exist for several years. I answered, “I can’t. This is all valuable stuff that I’ll need someday.” My answer totally belied my reasoning. I was feeling from my heart instead of thinking with my head.

At the same time, it is important to have open communication among APS members on all issues related to plant pathology, including FDRs. Many first detectors need to be aware of new plant disease developments in their geographic region. The need to take action may precede our ability to thoroughly review the information. It may be wiser to include a non-reviewed or peer reviewed abstract just in meeting proceedings but not go on to have that abstract published in a *Phytopathology* supplement. That way information is still disseminated, still available for others to search and see, but not referred material.

An additional problem to writing a meeting abstract for an FDR is that it may preclude publication as a *Plant Disease* note. In essence, the meeting abstract found in a *Phytopathology* supplement means it has been published and cannot now be published again.

The Divisional Forum is still considering several suggestions for additional wording that outlines APS guidelines for FDRs. If you have comments or other suggestions about this topic we would love to hear from you.

The majority of abstracts at annual and division meetings are of good quality. There are cases, such as the three-sentence abstract cited by a major professor who did not have time to review their student’s abstract before the deadline, that get culled before publication. Or a title where the pathogen name was misspelled? Or where “not significant differences” was erroneously stated as “significant differences.” However, these seem to be the exceptions rather than the rule. We think that suggesting a peer review before submission will help increase the quality of meeting abstracts. Certainly, without a formal mechanism, people may ignore this suggestion but at least students and others writing abstracts will know that these are criteria we all stand behind and support.
Beat the Crowds, Submit Your Award Applications Online Today

Starting in August, the APS Foundation will accept applications for the following 2016 awards. Applications must be completed in full and uploaded using our new online submission form no later than October 31, 2015. For additional information on each open award and submission requirements, please visit www.apsnet.org/members/foundation/apply.

- **Books for the World Award** ($500/award)—This award was established to help scientists, educators, extension personnel, and other agriculturalists in developing countries acquire educational materials from APS PRESS and promote international distribution of other APS resources.
- **J. Artie and Arra Browning Plant Medicine and Health Travel Award** ($500)—This award supports travel of a student in a Doctor of Plant Medicine, Doctor of Plant Health, and similar programs to attend a professional society meeting of any plant health or plant protection discipline.
- **French-Monar Latin American Award** (up to $1,000)—This award assists Latin American plant pathologists in attending the 2016 APS Caribbean Division Meeting, 2016 APS Annual Meeting, or any other plant pathology-related meeting in Latin America.
- **Frank L. Howard Undergraduate Fellowship** ($1,000)—This award supports undergraduate research projects in plant pathology.
- **Mathre Education Endowment Award** (up to $1,000)—This award supports plant pathology education programs and students pursuing a variety of projects and experiences.
- **Student Educational Award** ($500)—This award supports students’ endeavors to further their education outside the APS Annual Meeting.
- **Raymond J. Tarleton Student Fellowship Award** ($1,500)—This award supports plant pathology graduate students in their research and careers.

Thank You, Members!

*Ray D. Martyn, APS Foundation, rmartyn@purdue.edu*

On behalf of the APS Foundation Board and APS members worldwide, I wish to express my heartfelt thank you and appreciation for the generous contributions to the APS Foundation made by APS members over the last six years. I am pleased to say that the foundation portfolio has grown to $2.3 million. Over the last six years, many new initiatives and awards were established, giving APS members many opportunities to engage with their society and fellow plant pathologists. The first five-year business strategic plan was completed and a new five-year plan has been prepared. I feel confident that the foundation will continue to grow with the new leadership and the strong support of APS membership. Charitable giving is a culture that begins with "giving back so others may receive."

I encourage all members to donate to the fund you feel most passionate about, but especially the students and early career members that received a foundation award and have not yet contributed back. A $15 or $25 donation goes a long way in keeping the foundation healthy and providing future students and early career members the same opportunity you had. As I end my two terms as chair of the APS Foundation Board, I want to thank the numerous board members who worked tirelessly to achieve the strategic goals, the generous financial support of APS Council, and most of all, you, the APS membership, for your continued support. Without you, the foundation would not exist. Because of you, the foundation is strong and provides funding assistance for approximately 60 individuals each year totaling approximately $45,000.

I encourage you to visit the APS Foundation website (www.apsnet.org/members/foundation) to learn more about the many awards and opportunities available and how you can make a difference. There are many ways to contribute: during the annual meeting at the foundation booth, during annual renewal of your APS membership, or any time during the year by contacting the foundation directly. Also, if you have an idea that you are passionate about and wish to discuss establishing a new fund, please contact any board member directly. They will be glad to help you develop it.

Be an advocate for plant pathology,
Grow the foundation so that others may grow their careers,
Give to the foundation to keep the legacy alive and strong.
Become a Perennial Member

• **Save time!**
  Never forget to renew again

• **Go Green!**
  Perennial Members will no longer receive paper invoices

• **Cultivate Your APS Membership!**
  Focus on your involvement, let your membership take care of itself

• **Never Miss a Benefit!**
  Keep your APS member-only content coming without interruption

Find out more about Auto-Renew at [www.apsnet.org/Auto-Renew](http://www.apsnet.org/Auto-Renew).
Opt-in when you renew online.
In our opinion, “Cat Herders” has to be one of the greatest commercials of all time (www.youtube.com/watch?v=vTwJzTsb2QQ). There are tremendous parallels between herding cats and working with plant pathologists, since neither group is inclined to follow other people.

All of us, at different times, are put in charge of groups of people with differing opinions as to how to proceed to a consensus, let alone a solution. During this time, conflict arises, and when it does, it is often difficult to separate the person and the issue. Separating the two is usually the first step in resolving disagreement and keeping the herd together.

Too often, many of these disagreements begin with misunderstandings, social miscues, or unintended slights. In this way, people, including plant pathologists, are often like cats, in that they respond in one of three ways: 1) Hide: Avoidance prevents direct conflict. 2) Hinder: This could be simple lack of cooperation to full-blown passive-aggressiveness. 3) Harm: Belittling, yelling, or punishing behaviors that seek to damage.

As the leader, you need to understand where the individual is coming from—what history may be involved; what key pieces of information might have been overlooked, misrepresented, or misunderstood; or even what simple miscommunication may have transpired to get to the conflict.

Knowing where people are coming from is the first step. After separating the person from the issue, it’s time to confront the issue. Timing and preparation are important. The best way to prepare is to understand everyone’s motivations—including your own. What are you trying to accomplish? What will you settle for? Understand what others’ needs and wants are before having to determine what your wants and needs are. Having a clear picture of what you want directs the process. Approaching the situation as an opportunity to help others achieve their goals often defuses many conflicts before they develop. Ultimately, as a team, you all need to seek solutions together.

On the path to seeking solutions, recognize that there will be disagreement. Disagreement (issue) and disrespect (person) are two different things. Be sure to separate the person from the issue. Clarifying these two things improves communication. So does listening. Sometimes, the simple act of feeling heard is more important than solving the problem, and can allow compromise without the feeling of capitulation from either side. Whenever and wherever possible, look for points of consensus, no matter how small, and build from there.

At the same time, this is a conversation. Team members need to understand that you are responsible for building, developing, and maintaining the team. There needs to be understanding and respect, there doesn’t necessarily have to be agreement. Although not ideal, sometimes, unpopular decisions need to be made. Reasonable people with the best intentions can disagree. Recognize that not every difference needs to be resolved. The goal should always be getting the right things accomplished, not necessarily being right.
Students Degrees

Johanna Del Castillo-Múnera completed her Ph.D. degree in plant pathology under the direction of Mary Hausbeck in the Department of Plant, Soil, and Microbial Sciences at Michigan State University (MSU) in May 2015. Her dissertation is entitled “Characterization, population genetics, and management of Pythium spp. from floriculture crops in Michigan” and was addressed as a means to better tailor management strategies for the floriculture industry. While pursuing her degree, Del Castillo-Múnera was awarded the A. L. Rogers Endowed Research Scholarship Award from MSU, an APS Travel Award, and the Everett S. “Tex” Beneke Mycology Graduate Student Fellowship from MSU. She is currently a post-doctoral research scientist working with Cassandra Swett in the Department of Plant Science and Landscape Architecture at the University of Maryland on oomycete communities associated with greenhouse and nursery irrigation water.

Leslie Holland recently completed the requirement for an M.S. degree in plant pathology at Washington State University (WSU). Her thesis was entitled “Characterization of fungal pathogens associated with grapevine trunk diseases (GTD) in Washington State.” Her thesis committee consisted of Dean Glawe (chair), Gary Grove, George Vandemark, and Thomas Henick-Kling (director of WSU viticulture and enology program). Holland’s study determined that incidence of GTD symptoms was positively correlated with vineyard age. She isolated seven fungal species previously reported to be associated with GTD, including Cryptosphaeria pulmonanensis, Diaporthe eres, Diatrype whitmanensis, Diplodia mutila, Diplodia seriata, Eutypa lata, and Eutypa laevis. She also identified species commonly isolated, but not established to cause GTD, including Cytospora rhodopila, Cytospora chrysoperma, Discostroma fuscellum, and Coniochaeta limonii. Her study provides a basis for future work to address important issues such as the biology of these fungi, diagnosis of grapevine diseases, and the epidemiology and management of this diverse group of pathogens. Holland grew up in Yellow Springs, OH. She received her B.S. degree in biology from New Mexico State University. During her M.S. program at WSU, she received scholarships from the American Society for Enology and Viticulture and the WSU viticulture and enology scholarship. She served as the president of the Plant Pathology Graduate Student Organization. This fall, she will begin her Ph.D. program in plant pathology at the University of California-Davis under the advisement of Florent Trouillas.

New Position

Sally Rockey will join the Foundation for Food and Agriculture Research (FFAR) as its first executive director. Rockey, the National Institutes of Health (NIH) deputy director for extramural research, will assume her new role in September 2015. Rockey will use her deep knowledge of research across many sectors to optimize the innovation and impact potential of research initiatives funded by FFAR. Prior to joining NIH in 2005, Rockey spent 19 years at USDA, where she oversaw the competitive research component of the Cooperative State Research, Education, and Extension Service, which is today’s National Institute for Food and Agriculture. There, Rockey established the National Research Initiative and led expansion of its programs. As executive director, Rockey will steer FFAR’s approach to addressing challenges in food and agriculture through funding cutting-edge research, fostering public-private sector collaboration, and supporting young scientists in the agricultural field. Her familiarity with the global scientific research landscape will inform Rockey’s defining role in charting FFAR’s strategic direction. Leading the largest extramural research operation in the world at NIH, Rockey oversees a $25 billion annual budget and 500 employees and contractors. Rockey is a recognized leader in the scientific community. In her current role, Rockey cultivates strong relationships with the academic, public, and private sector to advance NIH-supported biomedical research and leads numerous cross-agency activities to bring government-wide approaches to federally supported research. She has earned dozens of honors, including the prestigious Presidential Rank Award. Rockey is an insect physiologist by training and holds a Ph.D. degree in entomology from The Ohio State University.

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Kenneth Frost joined Oregon State University and the Department of Botany and Plant Pathology as an assistant professor and extension plant pathologist in February 2015. He is based at Hermiston Agricultural Research and Extension Center (HAREC), Hermiston, OR. Frost earned both his M.S. (2004) and Ph.D. (2012) degrees at the University of Wisconsin-Madison (UWM). Before arriving at HAREC, Frost was a post-doctoral researcher at the Department of Plant Pathology, UWM, where his research has focused on disease and pest management in fresh-market and processing vegetable production, including web-based decision support tools. He has also worked on the epidemiology of late blight caused by Phytophthora infestans, the epidemiology of the disease aster yellows caused by a leafhopper-transmitted phytoplasma affecting vegetable crops, as well as the impact of neonicotinoid insecticides on crop yield. At HAREC, Frost is focused on the ecology, epidemiology, and management of pathogens causing disease of high-value irrigated vegetable crops grown in north central/northeast Oregon. The primary crops grown in this region include potato, wheat, onion, sweet corn, grass seed, and alfalfa, but more than 200 cultivated plant species are grown in lower abundance in this production area.

Collaboration

On May 21–June 13, 2015, a researcher from the University of Arizona (Kevin Hockett) engaged in collaborative research projects focused on bacteriocin (narrow-spectrum, protein-based antimicrobials) activity across phylogenetic diversity of the bacterial pathogen Pseudomonas syringae with researchers at the USDA ARS (Carolee Bull and Julio Martinez) in Salinas, CA. Utilizing the extensive collection of P. syringae strains maintained in the Bull laboratory, the researchers sought to understand the factors (phylogenetic, ecological, and biogeographical) that structure bacteriocin activity across these important pathogens. Additionally, research assessed the effectiveness of bacteriocin-mediated biocontrol in preventing plant disease. The collaboration
Department News
The Department of Plant Pathology, Washington State University (WSU) held its statewide faculty meeting at Pullman, WA, on June 12, 2015, Scott Hulbert, interim chair of the department, presided the meeting. During the meeting, they discussed updates on recent hiring of a tree fruit pathologist and ongoing hiring efforts, including a nematologist and personnel for the Clean Plant Center Northwest and Diagnostic Clinic. They also discussed curriculum modifications, graduate programs, improving recruitment, various departmental committees, and the Herbarium.

In Memory
It is with profound sadness that we mourn the loss of Biao Ding. Ding, a professor in the Department of Molecular Genetics, The Ohio State University (OSU), was a world-renowned plant vascular biologist and leading authority in viroid research. He died suddenly on June 26, 2015, in Prague, Czech Republic, while attending the International Conference on Viroids and Viroid-Like RNAs as a keynote speaker. Ding received his B.S. degree from Beijing Forestry University in 1982. He was then selected as one of the first group of scholars to study abroad upon the implementation of China's Reform and Open Policy. He earned both M.S. (1986) and Ph.D. (1991) degrees with Parthasarathy from Cornell University. He then spent three years pursuing post-doctoral studies in the laboratory of William Lucas at the University of California-Davis, where he worked on the role of plasmodesmata in viral infections. In 1994, he moved to Oklahoma State University (OSU) as an assistant professor in the Department of Agricultural Science and Technology, and National Academy of Sciences. His latest contribution, “Converging Evidence of Global Greening,” of which Waggoner is a coauthor, was just recently submitted to a peer-reviewed journal.

Presentation
Fungi were discussed by two Washington State University (WSU) researchers at the inaugural Science Pub at Paradise Creek Brewery in downtown Pullman. This was the first in a planned quarterly series arranged by the Palouse Discovery Science Center. Zack Frederick, a Ph.D. student supervised by Dennis Johnson in the Department of Plant Pathology, discussed “Famous fungus throughout history, growing culinary mushrooms.” Frederick’s research focuses on disease management of Verticillium wilt of potato and mint. In his spare time, he raises exotic orchids, tends gardens, studies renaissance marshal history, hones his photography skills, and recently has begun cultivating oyster mushrooms. Frank Dugan, USDA ARS research plant pathologist and adjunct professor of the Department of Plant Pathology at WSU, discussed “Preserving edible mushrooms in wine, mushroom hunting.” In addition to his research, Dugan has interests in history of agriculture, ethnobotany, and women’s contributions to plant and fungus lore. He has authored several books, including Fungi in the Ancient World, Conspectus of World Ethnomycology, and Hidden Histories and Ancient Mysteries of Witches, Plants and Fungi.

People continued from page 115
of Botany. He later joined the faculty of the plant cellular and molecular biology program at OSU in 2000 and was a full professor in the Department of Molecular Genetics since 2005.

Throughout his remarkable research career, Ding had a lasting interest in the mechanisms of intercellular communications through plasmodesmata. His unique contribution to this research field was to establish the small and non-encapsidated RNA pathogen called viroid as a model system for tracking the intercellular transport of macromolecules. His research group was first to reveal the specific RNA structures needed for the potato spindle tuber viroid (PSTVd) to overcome cell boundaries for intercellular and systemic trafficking. Significantly, his work revealed the critical role of RNA tertiary structures, involving non-Watson-Crick interactions, in the movement as well as replication of the small non-coding viroid RNA. His discovery was featured in the “Editors’ Choice” section of Science and reported by over 30 public media outlets around the world. His seminal research has been published in a number of prominent journals, including Science, PNAS, Plant Cell, and EMBO J, and was highly regarded by plant molecular biologists and plant pathologists worldwide.

Ding’s greatest strength as a researcher was his ever-expanding curiosity, passion, creativity, and most importantly his courage in entering into new fields of science.

Ding was a passionate teacher and mentor who inspired countless people even outside his academic community. He supervised numerous graduate students and post-doctoral researchers, many of whom now have successful research careers of their own. Ding was also a generous colleague, being always available to answer questions, offer insights and encouragement, and assisting junior colleagues. He was also an exemplary contributor to the academic communities. He was a long-time senior editor of MPMI and recently also assumed the role of scientific editor for PLOS Pathogens, in addition to serving on the editorial boards of many other journals and reviewing articles for more than 40 journals. He was elected fellow of AAAS in 2012.

Ding is survived by his wife, Yan Xun, and their two college-age children, Arthur and Adeline. The full version of this notice is available on the APS website.

Iowa State University (ISU) lost one of its most avid Cyclone fans, Seed Science Center advocates, and internationally respected experts in seed pathology. Lisa Shepherd Jenkins, 43, director of the administrative unit of the National Seed Health System and seed health testing coordinator for the University’s Seed Science Center, passed away on July 1 at Mary Greeley Medical Center in Ames following a brief battle with amyloidosis and multiple myeloma.

Lisa enjoyed life to the fullest and excelled in helping others. She was a tireless champion for phytosanitary issues relating to seed health and was highly regarded by seed industry colleagues from around the world for her expertise in seedborne diseases and plant pathology. Lisa possessed natural leadership ability and an infectious enthusiasm that benefitted both ISU and the seed industry.

Lisa received a B.S. degree in agronomy and seed science (1995) and an M.S. degree in plant pathology (1999). She served as a seed health testing coordinator for the Seed Science Center at ISU. An employee of the Seed Science Center since 1999, she headed one of the most active phytosanitary seed testing programs in the country. Lisa and her team performed tests on more than 350 different host-pathogen combinations. As a result of her ingenuity and experience, the ISU Seed Health Testing lab became the go-to laboratory for export seed testing and seed health testing information.

As director of the administrative unit of the National Seed Health System (NSHS), Lisa facilitated the accreditation of private companies to conduct phytosanitary testing and worked to standardize seed health laboratory and field inspection methods across the United States. She collaborated with the USDA APHIS PPQ and the American Seed Trade Association on international trade issues dealing with seed and assisted the Iowa Department of Agriculture and Iowa Crop Improvement Association in establishing training methods for the phytosanitary field inspection program. She focused her efforts on seed industry issues including compliance with the laboratory ISO:9000 program, NSHS accreditation, and science-based solutions to remove unnecessary phytosanitary restrictions. She also worked with farmers and seed companies to provide information and answers on seed pathology concerns.

During her career, Lisa served as chair of the American Seed Trade Association Emerging Diseases Committee, chair and member of the APS Seed Pathology Committee, and as a member of the National Seed Health System/Plant Protection and Quarantine/National Plant Advisory Group.

On the personal side, Lisa was in constant motion whether at the Seed Science Center, on the RAGBRAI route, or cheering loudly at a Cyclone game. Lisa and her husband Andy loved to travel and frequently arranged group trips for family and friends. Ever adaptable, Lisa was comfortable in any environment, whether it was inspecting a muggy cornfield, reading a book on a beach, blazing a trail down Chicago’s Michigan Avenue, or quietly working in the background at a meeting. Lisa helped everyone around her to be a better person. But perhaps Lisa’s greatest gift was the ability to bring and keep people together. Lisa was fiercely loyal to ISU and her family and friends; unusually photogenic, in that she never seemed to take a bad picture; and was very much loved.

Originally from Humboldt, IA, Lisa and her husband Andy resided in Nevada, IA. Lisa is survived by her husband Andrew Jenkins, mother Marianne Shepherd, sister Kim (Ed) Bartels, in-laws Richard and Ardith Jenkins, brother-in-law Rick (Pam) Jenkins, and nieces Rachel Bartels, Arianne, and Ashley Jenkins.

In lieu of flowers, memorial contributions may be designated to the family. A scholarship to honor Lisa’s work is being established. Contact the Seed Science Center at ISU (seedsci@iastate.edu) for more information.“

**Important APS Dates to Remember**

**September 2015**

1  OPRO Board Member applications due

**October 2015**

31  APS Foundation award applications due

*Phytopathology News*  117
Classified Policy: You can process your job listing at www.apsnet.org/careers/jobcenter. Please note: Your online job listing will be edited by newsletter staff to a maximum of approximately 200 words for the print listing in Phytopathology News. Fees for posting online are $25 member/$50 nonmember for graduate or post-doc positions and $200 member/$250 nonmember for all other positions. To have your job listing included in Phytopathology News, simply select the option on the online form (there is an additional $55 fee). If you have any questions, contact the APS Placement Coordinator (apsplacement@scisoc.org).

Assistant Professor (Nematology)
The University of Florida seeks an assistant professor (nematology). This is a 12-month tenure-accruing position that will be 70% research (Florida Agricultural Experiment Station) and 30% teaching (College of Agricultural and Life Sciences), available in the Entomology & Nematology Department, Institute of Food and Agricultural Sciences (IFAS). Candidates must have a Ph.D. degree in plant pathology, horticulture, agronomy, and soil and water sciences, and/or microbial symbionts/pathogens for improved pest management. Opportunities exist to participate in interdisciplinary research teams that include applied nematologists studying biological control, cropping systems, and population dynamics, and specialists in plant pathology, horticulture, agronomy, and soil and water science, among others. The faculty member will actively seek extramural funding to develop and support internationally recognized research and teaching programs. Individuals wishing to apply should go online to https://jobs.ufl.edu and search openings by department for 60140000-AG-Entomology and Nematology. Individuals wishing to apply should go online to https://jobs.ufl.edu and submit: application; cover letter that states applicant’s interest in the position and qualifications relative to the credentials listed above; CV; names and contact information (e-mail address and phone number) of three individuals who may be contacted to provide letters of recommendation. Three letters of recommendation and unofficial transcripts showing receipt of the doctoral degree should be sent to: Requisition # 0908422, Billy Crow, Chair, Nematology Search and Nominations Committee, University of Florida, Entomology & Nematology Department, PO Box 110620, Gainesville FL 32611-0620. e-mail: wcrow@ufl.edu. Job requirements: Ph.D. degree in nematology, plant pathology, or a closely related discipline. Modern molecular skills to address soil ecological interactions are required. Post-doctoral experience is highly desirable. Candidates should have demonstrated skills in verbal and written communication, interpersonal relationships, and procurement of extramural funding. Candidates must be supportive of the mission of the land-grant system. Candidates must also have a commitment to IFAS core values of excellence, diversity, global involvement, and accountability. This position is open until filled.

Assistant Professor of Plant Pathology
Montana State University-Bozeman, Department of Research Centers in the College of Agriculture, seeks applications for a 12-month, tenure-track assistant professor of plant pathology to perform research at the Eastern Agricultural Research Center (EARC) located in Sidney, MT. Duties include, but are not limited to, development of a field-oriented research program that focuses on disease management in pulse crops, sugar beets, and other crops under production in this Montana region. The successful individual will also provide expertise to other research programs in the department, college, and MAES as appropriate. Developing an integrated approach for disease management is expected. The individual is expected to cooperate with other scientists, educators, farmers, and related industries, and advisory and commodity groups to develop research priorities and actively participate in developing recommendations for management of pulse crops, sugar beet, and other crop diseases. The person in this position will also provide expertise to other research programs. Securing extramural funds from state, regional, and national sources, as well as the agricultural industry, is required. The position is expected to communicate research findings in oral and written formats, including refereed publications. Participation in outreach and service activities is expected. Job requirements include a completed Ph.D. degree in plant pathology or closely related discipline at the time of hire. Demonstrated expertise in plant disease management of field crops. Demonstrated experience in planning, designing, and implementing field research and interpreting research results using accepted, innovative, and strategic scientific methodology. Demonstrated ability to communicate effectively with scientists, farmers, and other agricultural clientele. Post-doctoral experience in agricultural crop disease management. To apply, please visit https://jobs.montana.edu/postings/2502 and upload your CV, a cover letter addressing each of the above required and preferred qualifications describing what specific training, expertise, and talents qualify you for this position, and transcripts of university academic work resulting in master’s and Ph.D. degrees. This position is open until filled.

Post-Doc Positions
The Citrus Research and Education Center (CREC) seeks candidates for two full-time post-doc positions to aid and support the faculty member in plant pathology at CREC, Lake Alfred, FL, for three years. It has the potential of extension based on project needs and the performance of the employee. Position 1: Post-docs in this position are expected to conduct research experiments, collect data, calculate or record results, prepare reports, and write journal articles. Study beneficial bacteria and develop products to promote plant health and growth. The candidates should have strong background on product development, fermentation of bacteria, and biocontrol. A significant record of productivity as demonstrated through refereed publications is preferred. Previous experience in industry is desired, but not required. Position 2: Conduct research experiments, collect data, calculate or record results, prepare reports, and write journal articles. Study plant defense inducers and develop products to control citrus HLB or greening. Candidates should have a strong background on product development, adjuvants, chemistry, plant physiology, or plant defense inducers. A significant record of productivity as demonstrated through refereed publications is preferred. Previous experience in industry is desired, but not required.

Applicants should send their transcripts, resumes, names, and addresses (electronic and mail) of three references to Nian Wang, University of Florida Citrus Research and Education Center, 700 Experiment Station Road, Lake Alfred, FL 33850. For additional information, please contact +1.863.956.8828, nianwang@ufl.edu. This position is open until filled.
Call for Papers
Be in the Next
MPMI Focus Issue
Noncoding RNA-Mediated Regulation of Plant-Microbe Interactions
ARTICLE SUBMISSION DEADLINE
September 30, 2015
FOCUS ISSUE EDITOR
John Carr

Phytopathology
Focus Issue
Emerging and Re-emerging Plant Diseases
Editors: George Sundin, Krishna Subbarao, and Steve Klosterman

Check online for open-access articles from this issue

SPOTLIGHT
A Soil Bioassay for Predicting the Risk of Spinach Fusarium Wilt
Garch and du Toit report on developing a soil bioassay to assess the relative risk of spinach Fusarium wilt.

The Trentepohliales (Ulvophyceae, Chlorophyta): An Unusual Algal Order and Its Novel Plant Pathogen—Cephaleuros

TRENDING

Phytopathology
• Host Versus Nonhost Resistance: Distinct Wars with Similar Arsenals
Upinder S. Gill, Seonghee Lee, and Kirankumar S. Mysore
• Plant Virus Metagenomics: Advances in Virus Discovery (Limited Time)
Marilyn J. Roossinck, Darren P. Martin, and Philippe Roumagnac

Plant Disease
• Resurgence of Cucurbit Downy Mildew in the United States: A Watershed Event for Research and Extension
Gerald J. Holmes, Peter S. Ojiambo, Mary K. Hausbeck, Lina Quesada-Ocampo, and Anthony P. Keinath
• Bacterial Wilt of Cucurbits: Resurrecting a Classic Pathosystem
• Mancozeb: Past, Present, and Future
Maria Lodovica Gullino, Federico Tinivella, Angelo Garibaldi, Gregory M. Kemmitt, Leonardo Bacci, and Brian Sheppard

MPMI
• Bacterial Endophytes and Their Interactions with Hosts
Mónica Rosenblueth and Esperanza Martínez-Romero
• Genome, Transcriptome, and Functional Analyses of Penicillium expansum Provide New Insights Into Secondary Metabolism and Pathogenicity

Plant Health Progress
• Stability of TSWV General Field Resistance in the ‘Georgia Green’ Peanut Cultivar
W. D. Branch and A. K. Culbreath
• Monitoring of a Single Point Mutation in the PtCesA3 Allele Confering Resistance to Carboxylic Acid Amide Fungicides in Plasmopara viticola Populations in Yamanashi Prefecture, Japan
Y. Aoki, Y. Kawagoe, N. Fujimori, S. Tanaka, and S. Suzuki
• Physoderma Brown Spot and Stalk Rot of Corn Caused by Physoderma maydis in Iowa
A. E. Robertson, L. Jesse, G. Munkvold, E. Salaa Rojas, and D. S. Mueller

Reducing Reproduction of the Root-Knot Nematode
Isabela Tristan Lourenço-Tessutti, José Dijair Antonino Souza Junior, Diogo Martins-de-Sa, Antônio Américo Barbosa Viana, Regina Maria Dechechi Gomes Carneiro, et al.

Organic Mineral Seed Coating for Control of Seedling Diseases of Alfalfa
Deborah A. Samac, Samuel Schraber, and Stuart Barclay

The Development of Symbiosomes in Infected Cells of Medicago truncatula Root Nodules
Aleksandr Gavrin, Veerle Jansen, Sergey Ivanov, Ton Bisseling, and Elena Fedorova

Applying Phytophthora ramorum Inoculum to Hosts: A New Method That Simulates Overseed Irrigation
L. Rollins, M. Elliott, and G. Chastagner

A Soil Bioassay for Predicting the Risk of Spinach Fusarium Wilt
Garch and du Toit report on developing a soil bioassay to assess the relative risk of spinach Fusarium wilt.

The Trentepohliales (Ulvophyceae, Chlorophyta): An Unusual Algal Order and Its Novel Plant Pathogen—Cephaleuros

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### Calendar of Events

#### APS-Sponsored Events

<table>
<thead>
<tr>
<th>Month</th>
<th>Event</th>
<th>Location</th>
<th>URL</th>
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</thead>
<tbody>
<tr>
<td>August 2015</td>
<td>APS Annual Meeting</td>
<td>Pasadena, CA</td>
<td><a href="http://www.apn.org">www.apn.org</a></td>
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<tr>
<td>August 2015</td>
<td>Pacific Division Meeting (in conjunction with APS Annual Meeting)</td>
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<tr>
<td>February 2016</td>
<td>Southern Division Meeting</td>
<td>Balm, FL</td>
<td><a href="http://www.apn.org">www.apn.org</a></td>
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<tr>
<td>March 2016</td>
<td>Potomac Division Meeting</td>
<td>Richmond, VA</td>
<td><a href="http://www.apn.org">www.apn.org</a></td>
</tr>
<tr>
<td>July 2016</td>
<td>APS Annual Meeting</td>
<td>Tampa, FL</td>
<td><a href="http://www.apn.org">www.apn.org</a></td>
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</tbody>
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#### Other Upcoming Events

**August 2015**

- **10-28** 2015 Rice Research to Production Course. IRRI, the Philippines. [http://ricediversity.org/t2p](http://ricediversity.org/t2p)

**September 2015**

- **6-10** International Workshop on PR Proteins and Induced Resistance. Aachen, Germany. [www.prir2015.rwth-aachen.de](http://www.prir2015.rwth-aachen.de)
- **14-15** Third Plant Genomics Congress: USA. St. Louis, MO. [www.globalengage.co.uk/plantgenomicsusa.html](http://www.globalengage.co.uk/plantgenomicsusa.html)
- **15-17** 37th International Carrot Conference. Ontario, Canada. [www.uoguelph.ca/muckcrop/carrotconf15](http://www.uoguelph.ca/muckcrop/carrotconf15)

**November 2015**

- **29-Dec 1** 36th New Phytologist Symposium—Cell Biology at the Plant–Microbe Interface. Munich, Germany. [www.newphytologist.org/symposiums/view/38](http://www.newphytologist.org/symposiums/view/38)

**December 2015**

- **5-11** Plant-Parasitic Nematode Identification Workshop. Clemson, SC. [www.clemson.edu/caffs/nematology/short_course.html](http://www.clemson.edu/caffs/nematology/short_course.html)
- **6-8** 2015 National Fusarium Head Blight Forum. St. Louis, MO. [www.scabusa.org/forum15](http://www.scabusa.org/forum15)
- **8-10** Soilborne Oomycete Conference. Hawks Cay, Florida Keys. [www.oomyceteconference.org](http://www.oomyceteconference.org)

**March 2016**

- **7-9** 2016 Rust Symposium. Pensacola, FL. [www.apsnet.org/meetings](http://www.apsnet.org/meetings)
- **30-Apr 2** Genetics of Maize–Microbe Interactions Workshop. College Station, TX. [https://gmdw.tamu.edu](http://https://gmdw.tamu.edu)

**June 2016**